

What is claimed is:

1. In a packet data communication system comprising a source base station subsystem (BSS), a target BSS, and a mobile station serviced by the source BSS, a method for detecting a cell reselection without an intervention of a Serving GPRS Support Node (SGSN) comprising steps of:
 - maintaining a record of at least one active mobile station;
 - receiving, from a mobile station of the at least one active mobile station, a message requesting allocation of a communication channel at the target BSS;
 - in response to receipt of the communication channel allocation request, allocating
10 a communication channel at the target BSS to the mobile station;
 - informing the mobile station of the allocated communication channel;
 - receiving, by the target BSS from the mobile station, uplink data that includes a mobile station identifier associated with the mobile station; and
 - determining, based on the uplink data and by reference to the record, that the
15 mobile station has initiated a cell reselection.
2. The method of claim 1, further comprising a step of, upon determining that the mobile station has initiated a cell reselection, removing data stored in a buffer associated with the mobile station and the source base station subsystem.
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3. The method of claim 2, wherein the step of removing data comprises a step of deleting data stored in a buffer associated with the mobile station and the source base station subsystem.
- 25 4. The method of claim 1, further comprising a step of, upon determining that the mobile station has initiated a cell reselection, terminating an allocation of a communication channel to the mobile station at the source base station subsystem.
5. The method of claim 1, further comprising a step of acknowledging the uplink
30 data.

6. The method of claim 1, wherein the uplink data comprises first uplink data, and wherein the method further comprises steps of:

receiving second uplink data from the mobile station, wherein the second uplink data does not include the mobile station identifier included in the first uplink data; and

5 routing the second uplink data to a Serving GPRS Support Node.

7. The method of claim 6, further comprising a step of determining, by the Serving GPRS Support Node and based on the second uplink data, that the mobile station has initiated a cell reselection.

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8. In a packet data communication system comprising a source base station subsystem (BSS), a target BSS, and a mobile station serviced by the source BSS, a method for detecting a cell reselection without an intervention of a Serving GPRS Support Node (SGSN) comprising steps of:

- 5 maintaining a record of at least one active mobile station;
- receiving, from a mobile station of the at least one active mobile station, a message requesting allocation of a communication channel at the target BSS;
- in response to receipt of the communication channel allocation request, allocating a communication channel at the target BSS to the mobile station;
- 10 informing the mobile station of the allocated communication channel;
- initiating a count down of a predetermined time period; and
- when no uplink data is received via the source BSS after the initiation of the count down and prior to the expiration of the predetermined time period, determining that the mobile station has performed a cell reselection.

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9. The method of claim 8, further comprising a step of, when uplink data is received via the source base station subsystem after the initiation of the count down and prior to the expiration of the predetermined time period, determining that the mobile station is still serviced by the source base station subsystem.

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10. The method of claim 8, further comprising a step of, when no uplink data is received via the source BSS after the initiation of the count down and prior to the expiration of the predetermined time period, removing data from a buffer associated with the mobile station and the source BSS.

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11. The method of claim 10, wherein the step of removing data comprises a step of deleting data stored in a buffer associated with the mobile station and the source base station subsystem.

12. The method of claim 8, further comprising a step of, when no uplink data is received via the source base station subsystem after the initiation of the count down and prior to the expiration of the predetermined time period, terminating an allocation of
- 5 communication resources to the mobile station at the source base station subsystem.

13. A packet control unit comprising:
a memory device that maintains a record of at least one active mobile station; and
a processor operably coupled to the memory device that receives, from a mobile
station of at least one active mobile station, a message requesting allocation of a
communication channel at a target base station subsystem (BSS), allocates a
communication channel at the target BSS to the mobile station, informs the mobile
station of the allocated communication channel, receives, from the mobile station and via
the target BSS, uplink data, and determines, based on the uplink data and by reference to
the record, that the mobile station has initiated a cell reselection.
14. The packet control unit of claim 13, further comprising a buffer operably coupled
to the processor, wherein the buffer is associated with the mobile station and with a
source base station subsystem and wherein, upon determining that the mobile station has
initiated a cell reselection, the processor removes data stored in the buffer.
15. The packet control unit of claim 14, wherein the processor removes data from the
buffer by deleting the data stored in the buffer.
16. The packet control unit of claim 14, wherein the buffer associated with the mobile
station and with a source base station subsystem comprises a first buffer and wherein the
processor removes data from the buffer by transferring the data to a second buffer
associated with the mobile station and with the target base station subsystem.
17. The packet control unit of claim 13, wherein the processor, upon determining that
the mobile station has initiated a cell reselection, further causes a termination of an
allocation of a communication channel to the mobile station at the source base station
subsystem.
18. The packet control unit of claim 13, wherein the processor further acknowledges
the uplink data.
19. The packet control unit of claim 13, wherein the uplink data comprises first uplink
data, wherein the packet control unit receives second uplink data from the mobile station,

wherein the second uplink data does not include the mobile station identifier included in the first uplink data, and wherein the processor further routes the second uplink data to a Serving GPRS Support Node.

20. A packet control unit comprising:
a memory device that maintains a record of at least one active mobile station;
a timer; and
a processor operably coupled to each of the memory device and the timer that
5 receives, from a mobile station of at least one active mobile station, a message requesting
allocation of a communication channel at a target base station subsystem (BSS), allocates
a communication channel at the target BSS to the mobile station, initiates a count down
of a predetermined time period with reference to the timer and, when no uplink data is
received by the packet control unit via the source base station subsystem after the
10 initiation of the count down and prior to the expiration of the predetermined time period,
determines that the mobile station has performed a cell reselection.
21. The packet control unit of claim 20, wherein, when uplink data is received via a
source base station subsystem after the initiation of the count down and prior to the
15 expiration of the predetermined time period, the processor further determines that the
mobile station is still serviced by the source base station subsystem.
22. The packet control unit of claim 20, wherein, when no uplink data is received via
the source base station subsystem after the initiation of the count down and prior to the
20 expiration of the predetermined time period, the processor further removes data from a
buffer associated with the mobile station and the source base station subsystem.
23. The packet control unit of claim 20, wherein, when no uplink data is received via
the source base station subsystem after the initiation of the count down and prior to the
25 expiration of the predetermined time period, the processor further causes a termination of
an allocation of communication resources to the mobile station at the source base station
subsystem.